UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/680,590	10/07/2003	Nir Ben-Zvi	MS1-2748US	5248

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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
Office Action Summary	10/680,590	BEN-ZVI ET AL.
	Examiner	Art Unit	
	HUSSEIN A. EL CHANTI	2457	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>*24 October 2008*</u>.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-59* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13,19-32,38-49 and 53-59* is/are rejected.

7)☐ Claim(s) *14-18, 33-37 and 50-52* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   This action is responsive to RCE received on Oct. 24, 2008. Claims 1-58 are

pending examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.   Claims 1-13, 19-32, 38-49 and 53-59 are rejected under 35 U.S.C. 102(e) as

being anticipated by Bommareddy et al., U.S. Patent No. 6,880,089 (referred to

hereafter as Bomm).

As to claim 1, Bomm teaches a method for conducting physical address

discovery, facilitating point-to-point communications between hosts of a cluster

operating in a cluster mode wherein acceptable messages are addressed to a shared

cluster address, the method comprising the steps of:

Receiving, by a target host within the cluster, an address discovery request

initiated by a source host seeking a physical address of the target host wherein the

target host and the source hosts (see col. 22 lines 61-col. 23 lines 7, both the source

server and the destination device are on the same subnet) are both within the same

cluster (see col. 22 lines 46-64 and col. 4 lines 18-38, the internal network flow

controller receives an ARP request for an internal address of a node); and

Generating by the target host, an address discovery response acceptable by the

source host operating in the cluster mode (see col. 22 lines 53-60 and col. 22 lines 65-

col. 23 lines 7 and col. 4 lines 18-38, the flow controller responds with a MAC address

associated with the firewall cluster IP_{cint}) and including:

a response source physical address field specifying a non-cluster mode physical

address of the target host (see col. 23 lines 3-7, the ARP response includes a MAC

address of the cluster and a destination IP address).

As to claim 2, Bomm teaches the method of claim 1 wherein the address

discovery request is an ARP request (see col. 22 lines 46-64).

As to claim 3, Bomm teaches the method of claim 1 wherein the non-cluster

mode physical address of the target host is a dedicated address of the target host (see

col. 23 lines 3-7, the destination address of the target server is an IP address of the

server).

As to claim 4, Bomm teaches the method of claim 3 wherein the dedicated

address is derived from an IP address assigned to the target host (see col. 23 lines 3-7,

the destination address of the target server is an IP address of the server).

As to claim 5, Bomm teaches the method of claim 1 wherein the non-cluster

mode physical address of the target host is a shared address assigned to multiple hosts

within the cluster (see col. 23 lines 3-7, the destination address of the target server includes a MAC address of the cluster of servers i.e. "shared address assigned to multiple hosts" or servers).

As to claim 6, Bomm teaches the method of claim 1 wherein the generating step is executed in accordance with a further step of:

determining whether the address discovery request was issued by a source host operating in the cluster mode (see col. 22 lines 61-67 and col. 41-48, the flow controller determines whether the address request originated from a device in the cluster or a device external to the network).

As to claim 7, Bomm teaches the method of claim 6 wherein the receiving, determining and generating steps are performed on a responding host that is distinct from an initiating host from which the address discovery request originates (see col. 22 lines 46-64, the steps are performed by the flow controller that is distinct from the destination device).

As to claim 8, Bomm teaches the method of claim 7 wherein the determining step comprises detecting that the address discovery request includes:

a request source physical address field specifying the shared cluster address assigned to the cluster (see col. 22 lines 61-col. 22 lines 22-col. 23 lines 7, the flow controller detects the source MAC address and IP address of the server that sent the ARP request and modifies the source addresses); and

a request source network communication protocol-specific address field

identifying a host within the cluster of hosts (see col. 22 lines 61-col. 22 lines 22-col. 23

lines 7).

As to claim 9, Bomm teaches the method of claim 8 wherein the shared cluster

address is a MAC address (see col. 23 lines 3-7, the ARP response includes a MAC

address of the cluster and a destination IP address).

As to claim 10, Bomm teaches the method of claim 9 wherein the source network

communication protocol-specific address field contains an IP address (see col. 23 lines

3-7, the ARP response includes a MAC address of the cluster and a destination IP

address).

As to claim 11, Bomm teaches the method of claim 8 further comprising the step

of: maintaining, by the responding host, a list of network communication protocol-

specific addresses corresponding to hosts within the cluster (see col. 17 lines 15-25, the

flow controller maintains a hash table with the IP addresses of the cluster servers).

As to claim 12, Bomm teaches the method of claim 8 further comprising the steps

of: modifying the request source physical address field within the address discovery

request, in accordance with the determining step, by replacing the shared cluster

address with a non-cluster mode physical address of the source host (see col. 22 lines

61-col. 23 lines 7, the flow controller replaces the address field in the ARP request with

its own MAC address information).

As to claim 13, Bomm teaches the method of claim 12 wherein the non-cluster mode physical address is a dedicated MAC address (see col. 22 lines 61-col. 23 lines 7).

As to claim 19, Bomm teaches the method of claim 1 wherein the address discovery response further includes a response destination field specifying the shared cluster address assigned to the cluster (see col. 22 lines 61-col. 23 lines 7).

As to claim 20, Bomm teaches a computer-readable medium containing computer-executable instructions for conducting physical address discovery, facilitating point-to-point communications between hosts of a cluster operating in a cluster mode wherein acceptable messages are addressed to a shared cluster address, the computer-executable instructions facilitating performing the steps of:

receiving an address discovery request initiated by a source host seeking a physical address of a target host within the cluster (see col. 22 lines 46-64, router or server "source host" may send an ARP request to find out the address of destination server); and

generating an address discovery response acceptable by the source host operating in the cluster mode (see col. 22 lines 53-60 and col. 22 lines 65-col. 23 lines 7, the flow controller modifies the ARP requests and generates a modified ARP request on the network and sends the response back to the source server) and including:

a response source physical address field specifying a non-cluster mode physical
address of the target host (see col. 23 lines 3-7, the ARP response includes a MAC
address of the cluster and a destination IP address).

As to claim 21, Bomm teaches the computer-readable medium of claim 20
wherein the address discovery request is an ARP request (see col. 22 lines 46-64).

As to claim 22, Bomm teaches the computer-readable medium of claim 20
wherein the non-cluster mode physical address of the target host is a dedicated address
of the target host (see col. 23 lines 3-7, the destination address of the target server is an
IP address of the server).

As to claim 23, Bomm teaches the computer-readable medium of claim 22
wherein the dedicated address is derived from an IP address assigned to the target host
(see col. 23 lines 3-7, the destination address of the target server is an IP address of
the server).

As to claim 24, Bomm teaches the computer-readable medium of claim 20
wherein the non-cluster mode physical address of the target host is a shared address
assigned to multiple hosts within the cluster (see col. 23 lines 3-7, the destination
address of the target server includes a MAC address of the cluster of servers i.e.
"shared address assigned to multiple hosts" or servers).

As to claim 25, Bomm teaches the computer-readable medium of claim 20
wherein the generating step is executed in accordance with a further step of:
determining whether the address discovery request was issued by a source host

operating in the cluster mode (see col. 22 lines 61-67 and col. 41-48, the flow controller determines whether the address request originated from a device in the cluster or a device external to the network).

As to claim 26, Bomm teaches the computer-readable medium of claim 25 wherein the receiving, determining and generating steps are performed on a responding host that is distinct from an initiating host from which the address discovery request originates (see col. 22 lines 46-64, the steps are performed by the flow controller that is distinct from the destination device).

As to claim 27, Bomm teaches the computer-readable medium of claim 26 wherein the determining step comprises detecting that the address discovery request includes:

a request source physical address field specifying the shared cluster address assigned to the cluster (see col. 22 lines 61-col. 22 lines 22-col. 23 lines 7, the flow controller detects the source MAC address and IP address of the server that sent the ARP request and modifies the source addresses); and

a request source network communication protocol-specific address field identifying a host within the cluster of hosts (see col. 22 lines 61-col. 22 lines 22-col. 23 lines 7).

As to claim 28, Bomm teaches the computer-readable medium of claim 27 wherein the shared cluster address is a MAC address (see col. 23 lines 3-7, the ARP response includes a MAC address of the cluster and a destination IP address).

As to claim 29, Bomm teaches the computer-readable medium of claim 28 wherein the source network communication protocol-specific address field contains an IP address (see col. 23 lines 3-7, the ARP response includes a MAC address of the cluster and a destination IP address).

As to claim 30, Bomm teaches the computer-readable medium of claim 27 further comprising computer-executable instructions for performing the step of: maintaining, by the responding host, a list of network communication protocol-specific addresses corresponding to hosts within the cluster (see col. 17 lines 15-25, the flow controller maintains a hash table with the IP addresses of the cluster servers).

As to claim 31, Bomm teaches the computer-readable medium of claim 27 further comprising computer-executable instructions for performing the steps of:

modifying the request source physical address field within the address discovery request, in accordance with the determining step, by replacing the shared cluster address with a non-cluster mode physical address of the source host (see col. 22 lines 61-col. 23 lines 7, the flow controller replaces the address field in the ARP request with its own MAC address information).

As to claim 32, Bomm teaches the computer-readable medium of claim 31 wherein the non-cluster mode physical address is a dedicated MAC address (see col. 22 lines 61-col. 23 lines 7).

As to claim 38, Bomm teaches the computer-readable medium of claim 20 wherein the address discovery response further includes a response destination field

specifying the shared cluster address assigned to the cluster (see col. 22 lines 61-col. 23 lines 7).

As to claim 39, Bomm teaches a host computer system including physical address discovery components facilitating point-to-point communications between hosts of a cluster operating in a cluster mode wherein acceptable messages are addressed to a shared cluster address, the computer system comprising:

a network interface for receiving an address discovery request initiated by a source host seeking a physical address of a target host within the cluster (see col. 22 lines 46-64, router or server "source host" may send an ARP request to a traffic controller "network interface" to find out the address of destination server);

a transport layer component for carrying out transport-protocol specific processing of network requests (see col. 22 lines 46-60);

intracluster address discovery logic interposed between the network interface and the transport layer component of the host system, the intracluster address discovery logic performing the step of:

generating an address discovery response acceptable by the source host operating in the cluster mode (see col. 22 lines 53-60 and col. 22 lines 65-col. 23 lines 7, the flow controller modifies the ARP requests and generates a modified ARP request on the network and sends the response back to the source server) and including:

a response source physical address field specifying a non-cluster mode physical

address of the target host (see col. 23 lines 3-7, the ARP response includes a MAC

address of the cluster and a destination IP address).

As to claim 40, Bomm teaches the system of claim 39 wherein the address

discovery request is an ARP request (see col. 22 lines 46-64).

As to claim 41, Bomm teaches the system of claim 39 wherein the non-cluster

mode physical address of the target host is a dedicated address of the target host (see

col. 23 lines 3-7, the destination address of the target server is an IP address of the

server).

As to claim 42, Bomm teaches the system of claim 41 wherein the dedicated

address is derived from an IP address assigned to the target host (see col. 23 lines 3-7,

the destination address of the target server is an IP address of the server).

As to claim 43, Bomm teaches the system of claim 39 wherein the generating

step is executed in accordance with a further step of: determining whether the address

discovery request was issued by a source host operating in the cluster mode (see col.

22 lines 61-67 and col. 41-48, the flow controller determines whether the address

request originated from a device in the cluster or a device external to the network).

As to claim 44, Bomm teaches the system of claim 43 wherein the determining

step performed by the intracluster address discovery logic comprises detecting that the

address discovery request includes:

a request source physical address field specifying the shared cluster address
assigned to the cluster (see col. 22 lines 61-col. 22 lines 22-col. 23 lines 7, the flow
controller detects the source MAC address and IP address of the server that sent the
ARP request and modifies the source addresses); and

a request source network communication protocol-specific address field
identifying a host within the cluster of hosts (see col. 22 lines 61-col. 22 lines 22-col. 23
lines 7).

As to claim 45, Bomm teaches the system of claim 44 wherein the shared cluster
address is a MAC address (see col. 23 lines 3-7, the ARP response includes a MAC
address of the cluster and a destination IP address).

As to claim 46, Bomm teaches the system of claim 45 wherein the source
network communication protocol-specific address field contains an IP address (see col.
23 lines 3-7, the ARP response includes a MAC address of the cluster and a destination
IP address).

As to claim 47, Bomm teaches the system of claim 44 further comprising a list of
network communication protocol-specific addresses corresponding to hosts within the
cluster (see col. 17 lines 15-25, the flow controller maintains a hash table with the IP
addresses of the cluster servers).

As to claim 48, Bomm teaches the system of claim 44 wherein the intracluster
address discovery logic comprises executable instructions for:

modifying the request source physical address field within the address discovery

request, in accordance with the determining step, by replacing the shared cluster

address with a non-cluster mode physical address of the source host (see col. 22 lines

61-col. 23 lines 7, the flow controller replaces the address field in the ARP request with

its own MAC address information).

As to claim 49, Bomm teaches the system of claim 48 wherein the non-cluster

mode physical address is a dedicated MAC address (see col. 22 lines 61-col. 23 lines

7).

As to claim 53, Bomm teaches the host of claim 44 wherein the address

discovery response further includes a response destination field specifying the shared

cluster address assigned to the cluster (see col. 22 lines 61-col. 23 lines 7).

As to claim 54, Bomm teaches a method for processing point-to-point

communications between hosts of a cluster operating in a cluster mode implemented by

a network communication protocol-specific layer of each host, and wherein acceptable

messages are addressed to a shared cluster address, the method comprising the steps

of:

receiving an intracluster message issued by an initiating host including a non-

cluster mode physical address of a target host within a message destination field (see

col. 22 lines 46-64, router or server "source host" may send an ARP request to a traffic

controller "network interface" to find out the address of destination server);

replacing, within the intracluster message by the target host, the non-cluster

mode physical address by the shared cluster address (see col. 22 lines 61-col. 23 lines

7, the flow controller replaces the address field in the ARP request with its own MAC

address information); and

presenting, after the replacing step, the intracluster message to the network

communication protocol-specific layer (see col. 22 lines 61-col. 23 lines 7).

As to claim 55, Bomm teaches the method of claim 54 wherein the replacing step

is performed by a network load balancing component (see col. 9 lines 65-col. 10 lines

10).

As to claim 56, Bomm teaches the method of claim 54 wherein the network

communication protocol-specific layer implements TCP/IP (see col. 18 lines 25-36 and

col. 2 lines 33-53).

As to claim 57, Bomm teaches the method of claim 54 further comprising the

step of:

generating an intracluster response message including a non-cluster mode

physical address for the initiating host within the message destination field (see col. 22

lines 53-60 and col. 22 lines 65-col. 23 lines 7).

As to claim 58, Bomm teaches the method of claim 57 further comprising the

steps of:

receiving, by the initiating host, the intracluster response message including the

non-cluster mode physical address for the initiating host within the message destination

field (see col. 22 lines 46-64, router or server "source host" may send an ARP request

to a traffic controller "network interface" to find out the address of destination server);

replacing, within the intracluster response message by the initiating host, the

non-cluster mode physical address by the shared cluster address (see col. 22 lines 61-

col. 23 lines 7, the flow controller replaces the address field in the ARP request with its

own MAC address information); and

presenting, after the replacing step, the intracluster message to the network

communication protocol-specific layer within the initiating host (see col. 22 lines 61-col.

23 lines 7).

As to claim 59, Bomm teaches a method for performing point-to-point

communications between hosts of a cluster operating in a cluster mode implemented by

a network communication protocol-specific layer of each host, and wherein acceptable

messages are addressed to a shared cluster address, the method comprising the steps

of:

receiving an address discovery request seeking a physical address of a target

host within the cluster (see col. 22 lines 46-64, router or server "source host" may send

an ARP request to find out the address of destination server);

determining that the address discovery request was issued by a source host

operating in the cluster mode(see col. 22 lines 61-67 and col. 41-48);

generating an address discovery response acceptable by the source host

operating in the cluster mode and including: a response source physical address field

specifying a non-cluster mode physical address of the target host (see col. 22 lines 53-

60 and col. 22 lines 65-col. 23 lines 7, the flow controller modifies the ARP requests and

generates a modified ARP request on the network and sends the response back to the

source server);

receiving an intracluster message issued by the source host including a non-

cluster mode physical address of the target host within a message destination field (see

col. 22 lines 46-64, router or server "source host" may send an ARP request to a traffic

controller "network interface" to find out the address of destination server);

replacing, within the intracluster message by the target host, the non-cluster

mode physical address by the shared cluster address (see col. 22 lines 61-col. 23 lines

7, the flow controller replaces the address field in the ARP request with its own MAC

address information); and

presenting, after the replacing step, the intracluster message to the network

communication protocol-specific layer (see col. 22 lines 61-col. 23 lines 7).

Response to Arguments

3.   Applicant's arguments with respect to claim 1 have been fully considered but are

moot in view of the new grounds of rejection.

Allowable Subject Matter

4. Claims 14-18, 33-37 and 50-52 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUSSEIN A. EL CHANTI whose telephone number is (571)272-3999. The examiner can normally be reached on Mon-Fri 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571)272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Hussein Elchanti/
AU 2457

Nov. 8, 2008